

REMARKS

Reconsideration and allowance of the above-identified application are respectfully requested. Claims 1–9 are currently pending. Claims 5–9 are new. No new matter has been added.

Initially, the undersigned notes with appreciation the Examiner's consideration of, and making of record, the documents submitted with the Information Disclosure Statement filed on July 31, 2006.

Claims 1–4 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Morito (U.S. Patent No. 6,003,577) in view of Russon (U.S. Patent Application No. 2003/0220894 A1) and further in view of Braun et al. (U.S. Patent Application No. 2005/0089247 A1). Prior to discussing this ground of rejection in detail, a brief summary of exemplary embodiments is provided below in order to highlight advantageous characteristics thereof.

Bead-inlaid plates are laid using artificial resin beads, also called tube beads, which comprise short, thick-walled cylindrical tube pieces of different colors. Such bead-inlaid plates can be laid in patterns to form various motifs. Conventionally, computer programs and associated machinery were known which would take an input picture, convert the picture to an electronic format, and use the information provided to automatically place beads on a base to create a bead-inlaid plate. Although such were quick and cheap because they were completely automated, they were also inflexible.

According to exemplary embodiments of the present invention, interactive methods and devices for creating patterns for bead-inlaid plates are described. Such interactive methods use a computer and/or associated software as an aid in designing bead-inlaid plate patterns, but also provide a user or designer with the flexibility to adjust the designs, e.g., by selecting formats and/or selecting individual colors or patterns of colors prior to generating the patterns to be used to create the bead-inlaid plates.

The cited U.S. Patent No. 6,003,577 to Morito corresponds to the European patent application 0 829 378 which is discussed in the Background section of the present specification and is, thus, precisely the type of automated system which is intended to be improved upon by the exemplary embodiments of the present invention. As described above, the primary reference to Morito describes an automated process for manufacturing a bead-inlaid plate or picture, which fails to provide the flexibility of the interactive methods and systems which are described and claimed in the present application. In fact, Morito is clearly most concerned with automating the process as stated, for example, in the Abstract:

"[a] bead-inlaid picture can be manufactured just in accordance with the original image at high quality and at a reduced cost quite automatically without requiring any particular skill."

Since Morito is concerned with providing an automatic process and system which does not require any "particular skill", it is not surprising that Morito therefore fails to teach or suggest features of the claimed combinations which provide the interactive

nature of bead-inlaid pattern generation according to exemplary embodiments. Among other things, as correctly recognized by the Examiner, Morito fails to teach or suggest:

- 1) "showing on the monitor associated with the computer the picture that corresponds to the digital image file";
- 2) "selecting on the monitor, using a user input device of the computer, an area of the shown picture for which a pattern is to be created";
- 3) "changing, on the monitor, using an user input device of the computer, at least one color quantity for the picture of the selected area and/or changing the color in the individual squares"; and
- 4) "selecting a format of a bead-inlaid plate".

However, it is respectfully submitted that the differences between Morito and Applicant's claim 1 combination are even deeper than those identified above. For example, Morito also fails to teach or suggest:

- 5) "showing on the monitor a picture of the selected area including the color determined for the square in each square"; and
- 6) "printing a pattern including the selected colors for the bead-inlaid plate".

With regards to deficiency 5) above, the Official Action suggests that Morito does teach this feature of Applicant's claim 1 combination referring to column 4, lines 18-27

and stating that it is "obvious that a digital image even if altered can be shown on a display device". However the cited portion of Morito merely refers to storing quantized hue and brightness of beads and makes no suggestion to display such information because, for example, **the system of Morito has no display attached thereto on which to output such an image** and teaches away from such a provision because it is intended to be fully automated so that there would be no reason to display such an image.

With respect to deficiency 6) described above, the Official Action takes the position that Morito does, in fact teach the printing step of Applicant's claim 1 combination. More specifically, the Official Action points to column 6, lines 4-9 as allegedly teaching this feature of Applicant's claim 1 combination. However, this portion of Morito merely describes the process of actually affixing the beads to a glass plate using adhesive, not "printing a pattern including the selected colours for the bead-inlaid plate". In fact, Morito nowhere teaches or suggest the provision of a printer to its system at all.

Regarding deficiencies 1)-3), the Official Action relies upon the cited published U.S. Patent Application 2003/0220894 to Russon to allegedly remedy these deficiencies. However, Russon is not concerned at all with image processing associated with bead-inlaid plates or patterns and, therefore, does not disclose that a bead pattern could or should be displayed. Thus, it is respectfully submitted that Russon fails to remedy the deficiencies of Morito with respect to providing a display that

is used to provide, for example, features 1)-3) which facilitate interactive bead-inlaid pattern design, since only Applicant's specification teaches or suggests such features.

Regarding deficiency 4) of Morito, i.e., "selecting a format of a bead-inlaid plate", the Official Action relies upon published U.S. Patent Application 2005/0089247 to Braun et al. to allegedly remedy this deficiency. However, Braun only discloses that the format of a picture can be chosen, such as for printing. However, such a generic teaching of picture formatting is not a teaching of selecting a format "of a bead-inlaid plate". In fact Braun et al., like Russon, is completely unconcerned with bead-inlaid plate design. Thus it is respectfully submitted that one of ordinary skill in the art would not have been motivated to have added a feature of selecting a format of a bead-inlaid plate to Morito based on the teachings of Braun et al.

Similar comments apply to independent claim 4, as well as the claims which depend from claims 1 and 4. New claims 5-9 have been added to round out the claim coverage and are also respectfully submitted to be patentable over the cited documents whether taken singly or in combination.

In addition to the comments and distinctions provided above, it should be appreciated that, in order to arrive at the claimed combinations, the method and apparatus of Morito must be modified to change the an automatic process described by Morito into an interactive process. Such a modification would require, for example, that display and printing devices should be added. Also, corresponding software would have to be developed and added, in particular for showing the pattern and allowing it to

changed, e.g. for each bead, and also for allowing printing in a realistic way. It is respectfully submitted that Morito clearly teaches away from such modifications based on its premise that automated and "low skill" processes are desirable.

All of the objections and rejections raised in the Office Action having been addressed, it is respectfully submitted that this application is in condition for allowance and a notice to that effect is earnestly solicited. Should the Examiner have any questions regarding this response or the application in general, they are invited to contact the undersigned at (540) 361-1863.

Respectfully submitted,

POTOMAC PATENT GROUP PLLC

By: /stevenmdubois/

Steven M. duBois
Registration No. 35,023

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Customer No. 42015
Potomac Patent Group PLLC
P.O. Box 270
Fredericksburg, VA 22404
(540) 361-1863